

CLAIMS

What is claimed is:

1. A system for cutting a traveling web of paper that is being wound onto a first spool and transferring the paper web onto a second spool by feeding turn-up tape into a nip
5 between the second spool and the paper web, comprising:

a transfer track for transporting the turn-up tape beneath the paper web and to a position adjacent to the nip; and

a drive assembly capable of driving the turn-up tape along the transfer track toward the nip, wherein the drive is capable of being powered by manual power or motor power.

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2. The system of claim 1, wherein the drive assembly comprises a drive shaft coupled to a drive wheel, the drive assembly also comprises an engaging wheel that is capable of engaging the turn-up tape between the drive wheel and the engaging wheel such that rotating the drive shaft in a predetermined direction drives the turn-up tape along the transfer track
15 toward the nip.

3. The system of claim 2, wherein manual power is supplied to the drive assembly by a hand crank capable of rotating the drive shaft.

20 4. The system of claim 3, further comprising a first pair of directional clutches coupled to the hand crank and the drive shaft, wherein the first directional clutches engage and rotate

the drive shaft when the hand crank is rotated in a predetermined direction and do not engage the drive shaft when the hand crank is not rotated.

5 5. The system of claim 2, wherein motor power is supplied to the drive assembly by an electric motor capable of rotating the drive shaft.

6. The system of claim 5, wherein the electric motor rotates the drive shaft by rotating a belt, wherein the belt is in rotational contact with a driven pulley that is coupled to the drive shaft by a second pair of directional clutches.

10 7. The system of claim 6, wherein the second pair of directional clutches are coupled to the driven pulley and the drive shaft, and wherein the second directional clutches engage and rotate the drive shaft when the driven pulley is rotated in a predetermined direction and do not engage the drive shaft when the driven pulley is not rotated.

15 8. The system of claim 1, wherein the transfer track comprises at least in part a V-shaped groove capable of containing the turn-up tape, the V-shaped groove comprising a first side wall and a second side wall at an acute angle from the first side wall.

20 9. The system of claim 8, wherein the second side wall comprises a convex portion.

10. The system of claim 8, wherein the V-shaped groove is covered at least in part by a flexible seal.

11. The system of claim 1, further comprising a pneumatic control system, wherein the
5 operation of the system is controlled by the pneumatic control system.

12. The system of claim 11, further comprising a computer, whereby the operation of the pneumatic control system is controlled by a computer when the drive is powered by motor power.

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13. A system for cutting a traveling web of paper that is being wound onto a first spool and transferring the paper web onto a second spool by feeding turn-up tape into a nip between the second spool and the paper web, comprising:

a transfer track for transporting the turn-up tape beneath the paper web and to a
15 position adjacent to the nip, wherein the transfer track comprises at least in part a V-shaped groove capable of containing the turn-up tape, the V-shaped groove comprising a first side wall and a second side wall at an acute angle from the first side wall, wherein the second side wall comprises a convex portion, wherein the V-shaped groove is covered at least in part by a flexible seal; and

20 a drive assembly capable of driving the turn-up tape along the transfer track toward the nip.

14. The system of claim 13, wherein the drive is capable of being powered by manual power or motor power.

15. The system of claim 14, wherein the drive assembly comprises a drive shaft coupled to a drive wheel, the drive assembly also comprises an engaging wheel that is capable of engaging the turn-up tape between the drive wheel and the engaging wheel such that rotating the drive shaft in a predetermined direction drives the turn-up tape along the transfer track toward the nip.

16. The system of claim 15, wherein manual power is supplied to the drive assembly by a hand crank capable of rotating the drive shaft.

17. The system of claim 16, further comprising a first pair of directional clutches coupled to the hand crank and the drive shaft, wherein the first directional clutches engage and rotate the drive shaft when the hand crank is rotated in a predetermined direction and do not engage the drive shaft when the hand crank is not rotated.

18. The system of claim 15, wherein motor power is supplied to the drive assembly by an electric motor capable of rotating the drive shaft.

19. The system of claim 18, wherein the electric motor rotates the drive shaft by rotating a belt, wherein the belt is in rotational contact with a driven pulley that is coupled to the drive shaft by a second pair of directional clutches.

20. The system of claim 19, wherein the second pair of directional clutches are coupled to the driven pulley and the drive shaft, and wherein the second directional clutches engage and rotate the drive shaft when the driven pulley is rotated in a predetermined direction and do not engage the drive shaft when the driven pulley is not rotated.

21. A method of operating a system for cutting a traveling web of paper that is being wound onto a first spool and transferring the paper web onto a second spool by feeding turn-up tape into a nip between the empty spool and the paper web, wherein the system comprises a transfer track and a drive for driving the turn-up tape through the transfer track toward the nip, comprising:

operating the system in an automatic mode with a computer controlled pneumatic system, wherein the drive is powered by an electric motor; and

switching to a manual mode, wherein the drive is manually powered.